Agence spatiale canadienne | Canadian Space Agency

Canada

Earth Observation Express

Other Editions

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1. Request for Proposals: Applications and Utilization of RADARSAT-2 Data

Public Works and Government Services Canada (PWGSC) plans to award several contracts through the Canadian Space Agency's Earth Observation Applications Development Program (EOADP) to develop advanced methods, systems, products and/or services, to maximize the utilization of the RADARSAT-2 data allocation within Government of Canada user organizations. For the purposes of this RFP, a wide range of application areas will be considered as well as a variety of methods and techniques that have the potential to further the utilization of the RADARSAT-2 data. For more information, refer to Merx.com.

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2. Forest Fires Smoke in the St. Lawrence Valley and New England

Fire plays an important role in most ecosystems in Canada and abroad. As these ecosystems have evolved over the last 10,000-15,000 years (since the glacial retreat at the end of the last ice age), fire has helped to maintain their health and diversity. From a socio-economic perspective fire can, however, have negative or undesirable effects on public health and safety, property, and natural resources. Earth Observation (EO) satellites are key resources in a variety of disaster management scenarios. The data has been used effectively in disaster responses such as forest fires, landslides, shifting infrastructure and subsidence, flash floods, hurricane monitoring, etc. The ability to deliver data in near-real time is essential for relief operations to map and monitor damage and for assessing the impact on the future. To view the forest fires smoke plumes over the St. Lawrence valley and New England in May 2010, please visit: www.asc-csa.gc.ca/eng/programs/grip/archive_100602.asp.

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3. Joint Announcement of Opportunity: Science and Operational Applications Research RADARSAT-2/TerraSAR-X- Initiative (SOAR-DLR)

Earth observation is a well suited tool to monitor our changing world. The corresponding geo-information products support the investigation and understanding of the processes causing and resulting from the change. In this context, the Canadian Space Agency (CSA) and the German Aerospace Centre (DLR) intend to jointly stimulate the scientific utilization of Earth Observation by providing data acquired by their national missions RADARSAT-2 and TerraSAR-X. This announcement of opportunity is open to German and Canadian Investigators and focuses on the synergistic evaluation of both sensors for basic and applied R&D on algorithms, methods and applications. Bidders with accepted proposal will have access, free of charge, to CSA and DLR images. For more information, please contact stephane.chalifoux@asc-csa.gc.ca. To register, visit: www.asc-csa.gc.ca/eng/ao/2010_soar_dlr.asp.

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4. 3rd RADARSAT-2 Workshop: On-line Registration Now Available

The third RADARSAT-2 Workshop, will take place at the Canadian Space Agency, St-Hubert, Quebec, Sept 27 - Oct 1 2010. The main objective of the Workshop is to inform all potential users of the utilizations of RADARSAT-2 data from an operational, commercial and R&D perspectives. For more information, please visit www.asc-csa.gc.ca/eng/events/2010/radarsat2.asp.

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5. A RADARSAT-2 Snapshot of Antarctica During the 2007–2008 International Polar Year

Antarctica remains one of the least known regions of Earth. A new image map of the southern continent now provides scientists with an opportunity to study Antarctic geology and glaciology in exceptional detail, and with a new suite of imaging tools. The map, constructed by MacDonald Dettwiler and Associates Ltd. of Vancouver, B.C., is a composite of synthetic aperture radar (SAR) scenes captured during the 2007–08 International Polar Year (IPY) by Canada's RADARSAT-2 satellite. For the first time, data capture included high-resolution polarization information over much of the continent. The image map was created as a contribution to the IPY by the Canadian Space Agency (CSA). The new RADARSAT-2 map of Antarctica, and associated dual-polarization imagery, is an important IPY legacy dataset for monitoring the state of the entire ice sheet, exploring the land below it, and assessing the coastal environments of the continent. It represents a key milestone and follows the high-resolution SAR mapping of Antarctica in 1997 by RADARSAT-1. The technological enhancements of RADARSAT-2 also mean that the product is intrinsically new and will offer surprises to the scientific community. The map will be widely available to the science community through agreements between CSA and MDA. A more detailed article will be posted soon on the CSA web site. For more information or to obtain a copy of the brochure, please contact: yves.crevier@asc-csa.gc.ca.

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6. Gulf of Mexico Oil Spill In The Loop Current

The Loop Current joins the Gulf Stream — the northern hemisphere's most important ocean-current system — sparking fears that oil could enter this system and be carried up to the US East Coast and reach Canada's Maritime Provinces. Scientists monitoring the US oil spill with Earth Observation (EO) radar satellite say that it has entered the Loop Current, a powerful conveyor belt that flows clockwise around the Gulf of Mexico towards Florida. To view images from May 12, 15 and 18 showing the oil spill moving closer the Loop Current, please visit: www.esa.int/esaCP/SEMBKST889G_index_1.html. Advanced processing methods have been performed on the satellite images to display ocean surface roughness variations and Doppler-derived ocean surface radial velocities around the oil spill area in the Gulf of Mexico.

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7. Canadian Critical Infrastructure Protection: New World-Class Open-Pit Mine Sites Monitoring From Earth Observation Benefits to Economy

Critical infrastructure consists of physical and information technology facilities, networks, services and assets that are critical to the well-being and health of Canadians and national operations. Canada's critical infrastructure is vulnerable to disasters, whether natural or human-induced. As the rate and severity of disasters increases, so does the possibility that disruption of critical infrastructure could result in widespread effects, cascading across borders and sectors, rapidly escalating from local to national levels and causing social and economic damages. The mining industry is among Canada's largest actual and potential employers in rural and northern regions, with mines like Diavik and Ekati in the Northwest Territories, offering short and long-term employment opportunities. In 2008, Canadian mineral production reached $45.3 billion, an 11.7% increase from the $40.5 billion reported for 2007. As a contribution to the mine critical infrastructure protection, the Canadian Space Agency (CSA) Earth Observation Application & Utilization division is supporting a private and academic consortium led by MDA Systems Ltd to improve our ability to assist mining companies to execute safe, economic and sustainable underground mass mining by integrating state-of-the-art geomechanical modelling and spatial and temporal Earth Observation satellite data from RADARSAT-2 with current ground surface responses to monitor surface and slope deformation. CSA and MDA project titled "Mine Subsidence Monitoring" (MSM) supports multiple strategies, including the Action Plan for Critical Infrastructure, the Science and Technology Strategy and the new Canada's Northern Strategy announced in 2009 by the Government of Canada. On June 1, 2010 in Vancouver, the project partners (CSA, MDA, Simon Fraser University, University of British Columbia, Rio Tinto, Alberta Geological Survey) participated in a coordination meeting to review the on-going and future MSM project InSAR activities. To read more and to view RADARSAT-2 imagery of Diavik and Ekati, please visit: www.asc-csa.gc.ca/eng/programs/grip/archive_090820.asp. For more information, please contact guy.aube@asc-csa.gc.ca, cnadeau@mdacorporation.com, Corey.Froese@ercb.ca, mailto:erik@eos.ubc.ca, mailto:dstead@sfu.ca or Alex.Vyazmensky@riotinto.com.

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8. Water Cycle: New global Network Validates SMOS Soil Moisture Data

Variability in the moisture held in soil is a consequence of the continuous exchange of water between the land and atmosphere. Although soil only holds a small percentage of the total global budget, soil moisture plays an important role in the water cycle. The new Earth Observation (EO) SMOS mission will provide global maps of soil moisture every three days. The soil moisture data delivered by the SMOS mission are being validated by taking coincident ground truth measurements, which are being fed into the newly established International Soil Moisture Network. The network was set up by the Global Energy and Water Cycle Experiment (GEWEX) in cooperation with the Group on Earth Observations (GEO) and the Committee on Earth Observation Satellites (CEOS) and ESA. It provides an integrative platform to host quality controlled soil moisture measurements emerging from various ground validation campaigns and operational networks to share freely with the scientific community. For more information, please visit: www.esa.int/esaEO/SEM9UI19Y8G_index_0.html. To view an animation of SMOS acquiring soil moisture information, please visit: download.esa.int/mpeg/Swath_H264.mp4. To learn more about the Canadian Space Agency Government Related Initiatives Program (GRIP) SMOS activities, visit: www.asc-csa.gc.ca/eng/programs/grip/archive_091130.asp.

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9. International Assistance: Kenya Benefits From Canadian Earth Observation Technology During Floods

Canada and Kenya enjoy warm and active bilateral relations, including within the Commonwealth. Canada actively supports Kenya in its efforts within the Intergovernmental Authority on Development (IGAD), a regional development organization in Eastern Africa, particularly in relation to Sudan and Somalia. Since 1961, Canada has disbursed approximately $600 million in development assistance to Kenya. On May 1, 2010, torrential rains caused major floods in 15 districts in Eastern Kenya, lost of lives and massive destruction of houses, property, infrastructure and farmlands. Thousands of people have been affected by the floods and been displaced. RADARSAT-1 and RADARSAT-2 images of affected regions were acquired on May 3 and 6, 2010. Flood products have been derived from RADARSAT images to better manage the event. The products were sent to the Regional Centre for Mapping of Resources for Development and UN OCHA emergency teams in Kenya. To learn more or to view the products, please visit: www.disasterscharter.org/web/charter/activation_details?p_r_p_1415474252_assetId=ACT-309.

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10. GMES Pilot Services In the Atmosphere and Maritime Areas: Call for Tender

Environmental information is of crucial importance. It helps to understand how our planet and its climate are changing, the role played by human activities in these changes and how they influence our daily lives. The Earth Observation (EO) programme GMES (Global Monitoring for Environment and Security) provides this information. Policymakers and public authorities, the major users of GMES, will use the information to prepare environmental legislation and policies with a particular focus on Climate Change, monitor their implementation and assess their effects. On May 22, 2010 the European Commission (DG Enterprise and Industry) launched a call for tender addressing GMES pilot

services in the atmosphere and maritime areas. The deadline is scheduled for 19 August, 2010. For more information, ec.europa.eu/enterprise/newsroom/cf/itemlongdetail.cfm?item_id=4196&tpa_id=141&lang=en.

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11. EO-Express Statistics

Since 2006, the EO-Express newsletter informed and raised the awareness of managers, scientists and students regarding Canadian activities and applications in the field of Earth Observation (EO) from space. The newsletter has now 2356 subscribers (617 organizations). For more information, please contact guy.aube@asc-csa.gc.ca.

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